# DECISION AND FINDING OF NO SIGNIFICANT IMPACT

# ENVIRONMENTAL ASSESSMENT – REDUCING AQUATIC RODENT DAMAGE THROUGH AN INTEGRATED WILDLIFE DAMAGE MANAGEMENT PROGRAM IN THE COMMONWEALTH OF VIRGINIA

An environmental assessment (EA) was prepared by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) Program in Virginia to evaluate and support a decision regarding the reduction of beaver (*Castor canadensis*) and muskrat (*Ondatra zibethica*) damage to property, agricultural and natural resources, and threats to public health and safety in the Commonwealth of Virginia through an integrated wildlife damage management program (USDA 2000). A Decision and Finding of No Significant Impact (FONSI) was issued on November 1, 2000. The purpose of this new Decision/FONSI is to facilitate planning, interagency coordination, streamlining of program management, and to clearly communicate with the public the analysis of individual and cumulative impacts of the program since 2000.

The EA evaluates the need for WS activities and the relative effectiveness of five alternatives to meet that proposed need, while accounting for the potential environmental effects of these activities. The action selected by WS involves "Fully Integrated Beaver and Muskrat Damage Management for all Public and Private Land" in which a variety of methods are used or recommended to reduce wildlife damage. The EA is tiered to the WS programmatic Environmental Impact Statement (EIS) (USDA 1997). Copies of the EA and 2000 Decision/FONSI are available for review from USDA/APHIS/WS, P.O. Box 130, Moseley, Virginia 23120. Copies of the EIS are available from the USDA/APHIS/WS Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.

Wildlife Services is the Federal program authorized by law to reduce damage caused by wildlife (Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C. 426-426b) as amended, and the Act of December 22, 1987 (101 Stat. 1329-331, 7 U.S.C. 426c). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an integrated wildlife damage management (IWDM) approach, also commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). All WS wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973.

# Consistency

The analyses in the EA demonstrate that Alternative 3: 1) best addresses the issues identified in the EA, 2) provides safeguards for public health and safety, 3) provides WS the best opportunity to reduce damage while providing low impacts to non-target species, and 4) balances the economic effects to property and agricultural resources.

# Monitoring

The Virginia WS program will annually review its impacts on issues identified in the EA to ensure that WS program activities do not impact the viability of target and non-target wildlife species populations. In addition, the EA will be reviewed each year to ensure that it and the analysis are sufficient.

Virginia Aquatic Rodent Decision - 1

#### **Public Involvement**

The pre-decisional EA was prepared and released to the public for a 31-day comment period (July 24 - August 25, 2000) by a legal notice in four newspapers with circulation throughout Virginia (*The Richmond Times Dispatch, The Roanoke Times, The Virginian-Pilot, and The Washington Times*) and was also mailed directly to 31 agencies, organizations, and individuals with probable interest in the proposed program in July 2000. Seven written comments were received by WS within the comment period. The majority of comments were in reference to the use of water level control devices. This issue was addressed in Section 2.4.6 of the EA and has been added below (see Major Issues Section) for reference. WS may use or recommend the use of water level control devices if the use of the device is consistent with the landowner's objectives, will alleviate the damage, and if funding is available for installation. All comments were analyzed to identify substantial new issues, alternatives, or to re-direct the program. Information contained in the comments did not change the analysis provided in the EA. All letters are maintained in the administrative file located at the Virginia Wildlife Services State Office in Moseley, VA.

The EA, the 2000 Decision/FONSI, and this new 2007 Decision/FONSI are being made available for public review and comment through a legal notice in the *Richmond Times Dispatch* and by direct mailing to agencies, organizations, and individuals with probable interest in the proposed program. The new 2007 Decision/FONSI will also be available for review on the WS website at <a href="http://www.aphis.usda.gov/wildlife\_damage/nepa.shtml">http://www.aphis.usda.gov/wildlife\_damage/nepa.shtml</a>. New issues or alternatives raised after publication of public notices will be fully considered to determine whether the EA and its Decision should be revisited and, if appropriate, revised.

# Major Issues

The EA describes the alternatives considered and evaluated using the identified issues. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25):

- 1. Effects on beaver and muskrat populations
- 2. Effects on plants and other wildlife species, including threatened and endangered species
- 3. Effects on public and pet health and safety
- 4. Humaneness of methods to be used
- 5. Effects on wetlands and wetland ecosystems
- 6. Effects on landscaping and native vegetation
- 7. Impacts to stakeholders, including aesthetics

In addition to the identified major issues considered in detail, seven other issues were considered but not in detail with rationale and further analysis. One of the seven issues, which was the subject of several comments during the public involvement period, is listed below for reference. This issue was addressed in Section 2.4.6 of the EA (USDA 2000).

## Water level control devices:

Water-level management devices or pond levelers have been used for many years in many different states, with varying degrees of success. Various types of beaver pond levelers have been described (Arner 1964, Laramie and Knowles 1985, Lisle 1996, Roblee 1984) and installation of beaver pond levelers can be effective in reducing flooding in certain situations (Minn. Dept. Nat. Res. 1994, Miller and Yarrow 1994, Organ et al. 1996). Two primary water level control device designs are the Beaver Deceiver (Lisle 1996) and the Clemson Beaver Pond Leveler.

A survey of Clemson Beaver Pond Levelers installed by WS in Mississippi revealed that only about 50% of levelers were considered successful (Nolte et al. 2001) and that beaver population control activities had been

implemented at 95% of those successful sites before and/or after the leveler installation. Another study reported water-level management devices to be effective in only about 5% of flooding situations (Anonymous 1999). This is primarily because these structures were blocked by debris or silt, and because the beaver often built a new dam nearby (McNeely 1995). If beaver are not removed, they may build dams upstream and downstream or block the device with mud and debris, rendering this method ineffective. Removal or reduction of the local beaver population, along with post-installation maintenance of the water-level management device itself, is usually required for this method to be effective (Nolte et al. 2001). The use of water-level management devices may require frequent maintenance, depending on the type of device used. Continued maintenance is necessary for the device to remain operational because stream flow, leaf fall, floods, and beaver activity will continuously bring debris to the water control device.

Water-level management devices are most effective on wetlands lacking in-stream flow (B. Sloan, USDA/APHIS/WS, 2000, pers. comm.), but may be ineffective in beaver ponds in broad, low-lying areas (Organ et al. 1996). They may not be appropriate in streams or ditches with continuous flow because the volume of water is too great for the device to handle, and debris is continuously carried to the site. Also, water-level management devices may not be effective during periods of unusually high rainfall or increased water flow because the device cannot handle the increased volume of water (Anonymous 1999, Wood et al. 1994).

If a water control device (fence or pipe system) is consistent with the landowners objectives, will alleviate the damage, and if funding is available for installation, then WS would use or recommend their use. WS will also provide technical assistance to landowners who want to install these devices on their own.

#### Affected Environment

The areas of the proposed action include state and interstate highways and roads, and railroads and their rights-of-way where beaver activities could cause damage. The areas could also include property in or adjacent to subdivisions and business and industrial parks where beaver impound water and gnaw or fell trees. Additionally, affected areas include timberlands, croplands, and pastures that experience financial losses from beaver flooding or gnawing. The proposed action could also include private and public property where muskrat burrowing damages dikes, ditches, ponds, and levees, and where muskrat feeding causes agricultural crop losses and negatively impacts recovery of T&E species (primarily mussels).

# Summary of WS Beaver and Muskrat Damage Management Activities

From 2001-2006, the Virginia WS program continued to provide technical assistance and operational damage management assistance to cooperators. During this period, VA WS lethally removed 2,906 beaver and 149 muskrats by shooting and trapping to alleviate damage. An additional 42 muskrats were unintentionally taken during beaver control activities. WS also conducted 1,488 technical assistance projects (WS Management Information System (MIS 2000-2006) during this period. Technical assistance included personal consultations, written or telephone consultations, instructional sessions, exhibits, and site visits.

# Alternatives Analyzed in Detail

Five alternatives were developed to address the issues identified above (see Major Issues Section). Four additional alternatives were considered, but were not analyzed in detail. A detailed discussion of the effects of the alternatives on the issues is contained in the EA. The following summary provides a brief description of each alternative.

Alternative 1. No WS Beaver or Muskrat Damage Management in Virginia. This alternative would result in no assistance from WS in reducing beaver or muskrat damage in Virginia. WS would not provide Virginia Aquatic Rodent Decision - 3

technical assistance or operational damage management services. All requests for beaver or muskrat damage management assistance would not be responded to by WS and would be referred to the Virginia Department of Game and Inland Fisheries (VDGIF), local animal control agencies, or private businesses or organizations. Assistance may or may not be available from any of these entities, or damage management methods could be implemented by resource owners, private businesses, or volunteers. Any assistance (technical or operational) provided by the VDGIF and local animal control agencies would be funded by the respective agency providing the assistance as these agencies could not accept reimbursement from service recipients without legislative approval (R. Duncan, VDGIF, pers. comm.). Private businesses could provide assistance on a reimbursable basis, or volunteer services could be provided at no cost to resource owners.

Alternative 2. Only Lethal Beaver and Muskrat Damage Management. Under this alternative, only lethal operational beaver and muskrat damage management and technical assistance would be provided by WS. Requests for information regarding non-lethal management approaches would be referred to VDGIF, local animal control agencies, or private businesses or organizations. Individuals or agencies might choose to implement WS lethal recommendations, implement non-lethal methods or other methods not recommended by WS, contract for WS damage management services, use contractual services of private businesses, use volunteer services, or take no action. WS damage management services would be conducted as authorized by various federal and state regulations and would be fully funded by service recipients. WS technical assistance would be funded through WS appropriations. This alternative would not allow WS to consider the use of physical exclusion or water-level control devices, even where these non-lethal methods may be beneficial. Lethal methods used by WS would include shooting, trapping, and zinc phosphide bait for muskrats.

Alternative 3. Fully Integrated Beaver and Muskrat Damage Management for all Private and Public Land (No Action and Proposed Action). This alternative is the proposed action and is the preferred alternative of WS because it incorporates an IWDM approach, as appropriate, to reduce conflicts associated with beaver and muskrats in the Commonwealth of Virginia. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, other species, and the environment. Under this action, WS would provide both technical assistance and operational damage management services. Non-lethal methods would be given first consideration in the formulation of each damage management strategy and would be recommended or implemented when practical and effective before recommending or implementing lethal methods. However, non-lethal methods would not always be applied as a first response to each damage problem. When appropriate, physical exclusion or habitat modification would be recommended and utilized to minimize beaver and muskrat damage. In other situations, beaver and muskrats would be, as humanely as possible, removed using body-grip traps, snares, leghold traps, shooting, and zinc phosphide bait for muskrats. The most appropriate response would often be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. In some cases, a combination of lethal removal and non-lethal options may provide the best solution.

Alternative 4 - Technical Assistance Only. This alternative would only allow Virginia WS to provide technical assistance to individuals or agencies requesting beaver or muskrat damage management in Virginia. Virginia WS personnel would only provide technical assistance and make recommendations when requested. However, private landowners, contractors, or others could conduct their own damage management on federal, state, county, and private lands.

Alternative 5 - Non-lethal Beaver and Muskrat Damage Management. Under this alternative, only non-lethal management approaches would be used or recommended by WS. Both technical assistance and Virginia Aquatic Rodent Decision - 4

operational damage management services would be provided. WS technical assistance would be funded through WS appropriations. Requests for lethal wildlife damage management services would be referred to the VDGIF from whom Kill Permits could be requested to allow the property owners or resource managers to implement lethal methods or contract others to do so.

# Alternatives Considered but not Analyzed in Detail

Eradication and suppression: This alternative will not be considered by Virginia WS in detail because: 1) Virginia WS opposes eradication of any native wildlife species; 2) VDGIF opposes eradication of any native Virginia wildlife species; 3) The eradication of a native species would be extremely difficult (if not impossible) to accomplish and cost prohibitive; and 4) Eradication of native species is not acceptable to most members of the public.

Population stabilization through birth control: Under this alternative, beaver and muskrat populations would be managed through the use of contraceptives. Beaver or muskrats would be sterilized or contraceptives administered to limit their ability to produce offspring. However, at present, there are no chemical or biological contraceptive agents for beaver or muskrats. A beaver or muskrat contraceptive, chemosterilant or immuno-contraceptive, if delivered to a sufficient number of individuals, could temporarily suppress local breeding populations by inhibiting reproduction. Reduction of local populations would result from natural mortality combined with reduced fecundity. No beaver or muskrats would be killed directly with this method, however, and treated beaver and muskrats would continue to cause damage. Populations of dispersing beaver and muskrats would probably be unaffected.

Contraceptive measures for mammals can be grouped into four categories: surgical sterilization, oral contraception, hormone implantation, and immuno-contraception (the use of contraceptive vaccines). These techniques would require that beaver or muskrats receive either single, multiple, or possibly daily treatment to successfully prevent conception. The use of this method would be subject to approval by federal and state Agencies. This alternative was not considered in detail because: 1) it would take a number of years of implementation before the beaver or muskrat population would decline, and, therefore, damage would continue at the present unacceptable levels for a number of years; 2) surgical sterilization would have to be conducted by licensed veterinarians, would therefore be extremely expensive; 3) it is difficult to effectively live trap or chemically capture the number of beaver or muskrats that would need to be sterilized in order to effect an eventual decline in the population; and 4) no chemical or biological contraceptive agents for beaver or muskrats has been approved for use by state and federal regulatory authorities.

The use of contraceptives is not realistic, at this point, since there are no effective and legal methods of delivering contraceptives to beaver or muskrats.

Compensation for wildlife damage losses: The Compensation Alternative would direct all Virginia WS program efforts and resources to the verification of losses from beaver and muskrats and providing monetary compensation. Services provided by WS would not include any direct damage management, nor would technical assistance or non-lethal methods be provided. This alternative was not considered due to several disadvantages:

- The alternative would require large expenditures of money and a large work force to investigate and validate all losses and determine and administer appropriate compensation.
- · Compensation would likely be below full market value and many losses could not be verified.
- Compensation would give little incentive to resource owners to limit damage through management strategies.
- Not all property owners/managers would rely completely on compensation and lethal control of

beaver and muskrats would most likely continue as permitted by state law.

Congress has not appropriated funds to compensate for wildlife damage.

**Bounties:** Bounties or payment of funds for killing animals suspected of causing economic losses is not supported by VDGIF and VDACS. Virginia WS concurs with these agencies because: 1) bounties are generally not effective in managing wildlife, 2) circumstances surrounding take of animals are largely unregulated, 3) no process exists to prohibit taking of animals from outside the damage management area for compensation purposes, and 4) Virginia WS does not have the authority to establish a bounty program.

# **Environmental Consequences**

Wildlife Services has reviewed the EA and has determined that the environmental impacts on the quality of the human environment from activities conducted pursuant to the EA will continue to be insignificant, and that no substantive changes in the analysis are necessary at this time. The following is a brief summary of potential impacts for each of the major issues analyzed in the EA.

# Effects on beaver and muskrat populations:

The EA concluded that the effects of WS beaver and muskrat damage management activities on target species populations would be insignificant. VDGIF, the agency with authority for management of resident wildlife species in Virginia, concurred that WS activities would not adversely impact beaver and muskrat populations in the state.

From 2001-2006, WS removed a total of 2,906 beaver in Virginia during beaver damage management projects. Comparatively, VDGIF estimated the total beaver harvest from 2001-2006 at 31,040 (estimated by the number of pelts sold and take under kill permits). The greatest number of beaver removed by WS in any year was 621 (Table 1). This level of take falls well below the 5,000 beaver used in the analysis in the EA.

Table 1: Comparison of WS annual beaver take and annual private harvest in Virginia, 2001-2006.

Year	WS Take	Private Harvest <sup>1</sup>	Total Take	WS Take: % of total take	WS Take: % of total population <sup>2</sup>
2001	547	8,073	8,620	6.3	0.5
2002	296	5,049	5,345	5.5	0.3
2003	383	4,115	4,498	8.5	0.4
2004	518	4,604	5,122	10.0	0.5
2005	541	4,249	4,790	11.3	0.5
2006	621	4,950	5,571	11.1	0.6
Total	2,906	31,040	33,946	8.5	2.92

<sup>1.</sup> Private harvest reported by VDGIF, based on the number of pelts sold and take under kill permits (M. Fies, VDGIF, 2007).

USDA (1997, Table 4-2) stated that beaver populations could sustain an annual harvest rate of up to 30% without declining (Novak 1987). Table 1 demonstrates that WS' beaver take did not exceed 11.3% of the total statewide beaver harvest or 0.6% of the conservative estimate of the statewide beaver population in any year from 2001-2006. WS impact on the beaver population in Virginia is, therefore, considered to be of low magnitude. Program activities and their potential impacts to beaver populations have not changed from those analyzed in the EA.

From 2001-2006, WS removed a total of 191 muskrats in Virginia during muskrat damage management activities and as non-target take during beaver damage management. Comparatively, VDGIF estimated the Virginia Aquatic Rodent Decision - 6

<sup>2.</sup> Based on minimum population estimate of 99,479 provided in the EA (Table 4-2 of EA, USDA 2000).

total muskrat harvest from 2001-2006 at 64,557 (based on the number of pelts sold). As described in the EA (USDA 2000), the small number of muskrats taken by WS has had a negligible impact on muskrat populations in the state. From 2001-2006, WS muskrat take was only 0.29% of the cumulative harvest (Table 2).

Table 2: Comparison of WS annual muskrat take and annual private harvest in Virginia, 2001-2006.

Year	WS Take	Private Harvest <sup>1</sup>	Total Take	WS Take: % of total take
2001	14	18,343	18,357	0.08
2002	31	11,743	11,774	0.26
2003	21	7,683	7,704	0.27
2004	45	9,683	9,728	0.46
2005	32	8,654	8,686	0.37
2006	48	8,451	8,499	0.56
Total	191	64,557	64,748	0.29

<sup>1.</sup> Private harvest reported by VDGIF, based on the number of pelts sold (M. Fies, VDGIF, 2007).

The effects of WS management activities on beaver and muskrat populations are expected to remain insignificant.

Effects on plants and other wildlife species, including threatened and endangered species: The EA concluded that there would be no probable effects on other wildlife species. No adverse effects on threatened and endangered (T&E) species were expected as a result of mitigation measures which were outlined in the EA (Section 3.6). Fifteen animal species and 2 plant species have been added to the U.S. Fish and Wildlife Service (USFWS) T&E species list since preparation of the EA and signing of the Decision/FONSI in 2000. These species include the following: Cumberland (pearlymussel) bean (Villosa trabalis), American burying beetle (Nicrophorus americanus), Eskimo curlew (Numenius borealis), eastern puma (Concolor couguar), green sea turtle (Chelonia mydas), hawksbill seas turtle (Eretmochelys imbricata), Kemp's ridley sea turtle (Lepidochelys kempii), leatherback sea turtle (Dermochelys coriacea), loggerhead sea turtle (Caretta caretta), shortnose sturgeon (Acipenser brevirostrum), northeastern beach tiger beetle (Cicindela dorsalis dorsalis), finback whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), right whale (Balaena glacialis), gray wolf (Canis lupus), Seabeach amaranth (Amaranthus pumilus), and American chaffseed (Schwalbea Americana). No adverse impacts are expected for any of the T&E species on the current list.

From 2001 through 2006, WS unintentionally killed 47 river otters (*Lutra canadensis*) during beaver damage management projects. River otters are a special concern species in Virginia and are harvested by trappers during the state regulated trapping season. The 47 otters that were killed by WS from 2001 through 2006 represented only 0.72% of the 6,499 otters that were legally harvested and tagged by trappers during regulated trapping seasons in the same time period (M. Fies, VDGIF, 2007). The greatest number of otters that were unintentionally killed by WS in any year was 12 in 2005. Other nontarget species unintentionally killed during beaver damage projects from 2001 through 2006 included 2 wood ducks and 1 other dabbling duck, 2 great blue herons, 1 white-tailed deer, and 79 turtles. These species are common throughout Virginia and are not considered to be of low density. WS' removal of nontarget species is not expected to have any cumulative adverse effects on local or statewide populations in the area. An additional 138 turtles, 1 Canada goose, and 3 river otters were released unharmed during the same time period. WS concluded that the cumulative impact on non-target species is biologically insignificant to nonexistent and that WS has not adversely affected the viability of any wildlife species populations through beaver or muskrat control activities.

Program activities and their potential impacts on non-target wildlife populations and T&E species have not changed from those analyzed in the EA. The effects on this issue are expected to remain insignificant.

Effects on public and pet health and safety: The EA concluded that effects on this issue would be insignificant. WS implementation of program activities did not result in any adverse impacts to human health and safety. Program activities and methods and their potential impacts on human health and safety have not changed from those analyzed in the EA. Impacts of beaver and muskrat damage management programs on this issue are expected to remain insignificant.

Humaneness of methods to be used: WS personnel are experienced and professional in their use of management methods, and methods are applied as humanely as possible. Beaver and muskrat damage management activities and methods have not changed from those analyzed in the EA. Therefore, the effects on humaneness have not changed from those considered in the EA. Impacts of the program on this issue are expected to remain insignificant.

Effects on wetlands and wetland ecosystems: The EA concluded that the effects on this issue would be insignificant. Beaver dams in Virginia are removed by hand or with explosives with the purpose of returning streams, channels, dikes, culverts, and irrigation canals to their original channel. Dams are removed in accordance with provisions of the Clean Water Act. The removal of dams can alter the hydrology of certain areas; however, these areas normally benefit from the removal of stagnant standing water. Consequently, restoration of wetlands impounded by beaver to their original, pre-dam condition usually results in improved, more diverse wildlife habitat than older stagnant beaver ponds.

Most dams that WS breaches are created as a result of recent beaver activity because WS receives most requests for assistance soon after damage is discovered. These sites do not possess wetland characteristics or the same wildlife habitat values as wetlands. Therefore, WS beaver and muskrat damage management activities are not negatively affecting wetlands and do not have a significant impact because sites are generally being returned to an original condition. Program activities and their potential impacts on wetlands have not changed from those analyzed in the EA. The effects on this issue are expected to remain insignificant.

Effects on landscaping and native vegetation: The EA concluded that the effects of WS beaver and muskrat damage management activities on this issue would be insignificant. Program activities and their potential impacts on landscaping and native vegetation have not changed from those analyzed in the EA. The effects on this issue are expected to remain insignificant.

Impacts to stakeholders, including aesthetics: The EA concluded that public reaction to the beaver and muskrat damage management program would be variable and mixed because there are numerous philosophical, aesthetic, and personal attitudes, values, and opinions about the best ways to reduce conflicts between humans and wildlife. Beaver and muskrat damage management methods and activities have not changed since the EA and therefore, the impacts to stakeholders and effects on aesthetics have not changed from those analyzed in the EA and are expected to remain insignificant.

## Finding of No Significant Impact

The analysis in the EA, the 2000 Decision/FONSI, and this new 2007 Decision/FONSI indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of implementing the proposed action (Alternative 3). I agree with this conclusion and, therefore, find that an EIS need not be prepared. As defined in 40 CFR §1508.27, significance is determined by examining

the following criteria:

- Beaver and Muskrat damage management, as conducted by WS in Virginia, is not regional or national in scope.
- The proposed action poses minimal risk to public health and safety. Risks to the public from WS methods were determined to be low in a formal risk assessment (USDA 1997, Appendix P).
- 3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Mitigation measures that are part of WS' standard operating procedures and adherence to laws and regulations will further ensure that WS activities do not harm the environment.
- 4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature, or effect.
- 5. Based on the analysis documented in the EA and the accompanying administrative file, the effects of the proposed damage management program on the human environment are not significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.
- 6. The proposed action does not establish a precedent for any future action with significant effects.
- 7. No significant cumulative effects were identified through this assessment. The number of beaver and muskrat taken by WS, when added to the total known take (hunter harvest plus other take), falls well within allowable harvest levels.
- 8. The proposed activities will not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor will it cause a loss or destruction of significant scientific, cultural, or historical resources.
- WS determined that the proposed action will not adversely affect Federal- or Virginia State-listed threatened or endangered species.
- 10. The proposed action will be in compliance with all federal, state, and local laws imposed for the protection of the environment.

#### Decision

I have carefully reviewed the EA, input resulting from the 2000 public involvement process, the 2000 Decision/FONSI, and this new 2007 Decision/FONSI. I believe the issues identified in the EA would be best addressed through implementation of Alternative 3 (the Proposed Action). Alternative 3 is therefore selected because it offers the greatest flexibility in achieving effectiveness while minimizing cumulative adverse impacts on the quality of the human environment with respect to the issues raised for consideration in this process. The WS program will implement the proposed action in compliance with all applicable standard operating procedures in Chapter 3 of the EA. This Decision/FONSI will take effect 30 days after publication of a Legal Notice making the EA, the 2000 Decision/FONSI, and this new 2007 Decision/FONSI available to the public for review and comment. New issues or alternatives raised after publication of public notices will be fully considered to determine whether the EA and its Decision should be revisited and, if appropriate, revised, or if a Notice of Intent to prepare an EIS should be issued.

For additional information regarding this decision, please contact USDA/APHIS/WS, P.O. Box 130, Moseley, Virginia 23120.

Charles S. Brown APHIS-WS

Eastern Region Director

Date

#### Literature Cited:

- Anonymous 1999. Beaver boom in MA. American Trapper. 39: 21.
- Arner, D.H. 1964. Research and a practical approach needed in management of beaver and beaver habitat in the Southeastern United States. Trans. North Amer. Wildl. Nat. Resour. Comm. 29:150-158.
- Laramie, H. A. Jr., and S. W. Knowles. 1985. Beavers and their control. Univ. of New HampshireCoop. Ext. Service. Wildlife Fact Sheet 10. Durham, NH. 4 pp.
- Lisle, S. 1996. Beaver deceivers. Wildl. Control Tech. Sept. Oct. pp. 42-44.
- McNeely, R. 1995. Missouri's Beaver: A guide to management, nuisance prevention and damage control. Missouri Dept. of Conservation. Jefferson City, MO. 30 pp.
- Miller, J. E., and G. K. Yarrow. 1994. Beavers. Pages B1-B11 in R. M. Timm, ed. <u>Prevention and control of wildlife damage</u>. Great Plains Agric. Counc., Wildl. Res. Comm. and Nebraska Coop. Ext. Serv., Univ. of Nebraska, Lincoln.
- Minn. Dep. Nat. Res. 1994. The clemson beaver pond leveler. St. Paul, MN. 6 pp.
- Nolte, D.L., S.R. Swafford, and C.A. Sloan. 2001. Survey of factors affecting the success of Clemson beaver pond levelers installed in Mississippi by Wildlife Services. Pages 120-125 in MC. Brittingham, J. Kays, and R. McPeake editors, Proceedings of the Ninth Wildlife Damage Management Conference. Pennsylvania State University, University Park, PA.
- Novak, M. 1987. Beaver. Pages 282-312 in M. Novak, J.A. Baker, M.E. Obbard, and B. Mallock, eds. Wild Furbearer Management and Conservation in North America. Ontario Trappers Assoc., Ontario.
- Organ, J.F., T. Decker, J. DiStefano, K. Elowe, P. Rego, and P.G. Mirick. 1996. Trapping and furbearer management: Perspectives from the Northeast. Northeast Furbearers Resources Technical Committee. USDI-Fish and Wildlife Service. Hadley, Ma. 33 pp.
- Roblee, K. 1984. Use of corrugated plastic drainage tubing for controlling water levels at nuisance beaver sites. N.Y. Fish Game J. 31: 63-80.
- Slate, D.A., R. Owens, G. Connolly, and G. Simmons. 1992. Decision making for wildlife damage management. In Trans. N. A. Wildl. Nat. Res. Conf 57:51-62.
- The Wildlife Society. 1992. Conservation policies of The Wildlife Society: A stand on issues important to wildlife conservation. The Wildlife Society, Bethesda, Md. 24pp.
- USDA, APHIS, ADC (revised). 1997. Final Environmental Impact Statement. USDA, APHIS, ADC Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.
- USDA, APHIS, WS. 2000. Environmental Assessment Reducing aquatic rodent damage through an integrated wildlife damage management program in the Commonwealth of Virginia. USDA, APHIS, WS, PO Box 130, Moseley, VA 23120.

Wood, G. W., L. A. Woodward, and G. K. Yarrow. 1994. The Clemson beaver pond leveler. AFW Leaflet 1, Clemson Cooperative Extension Service, Clemson, SC.